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Students' Department

H. P. Baumann

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AMERICAN INSTITUTE EXAMINATIONS

[NOTE.—The fact that these solutions appear in THE JOURNAL OF ACCOUNTANCY should not cause the reader to assume that they are the official solutions of the board of examiners. They represent merely the opinions of the editor of the *Students' Department.*]

EXAMINATION IN ACCOUNTING THEORY AND PRACTICE—PART II

MAY 13, 1932, 1:30 P. M. TO 6:30 P. M.

The candidate must answer the first three questions and one other question. Answer no more than four *questions.*

No. 1.

a. (25 points):

The following balance-sheet is submitted to you by the president of the W M Company, makers of heavy machinery, who requests you to append your certificate thereto:

Balance-sheet, as at December 31, 1931

Assets

Current:		
Cash		$ 2,000,000
U. S. government securities		2,500,000
Notes receivable—customers		240,000
Accounts receivable—trade		1,250,000
Accrued interest receivable		100,000
Inventories of raw material, work in progress and finished product		1,200,000
Prepaid insurance and taxes		75,000
Treasury stock—5,000 shares, common, at cost		1,200,000
Capital stock of associated company, at cost		1,000,000
Accounts receivable—associated company		750,000
Real estate and buildings—not in use and held for sale		1,500,000
Total current assets		$11,815,000
Fixed:		
Real estate, plant and equipment, at cost, less reserve for depreciation		8,000,000
Total assets		$19,815,000

Liabilities

Current:		
Accounts payable		$ 1,250,000
Federal, state and other taxes		5,000,000
Total current liabilities		$ 6,250,000
Capital stock—authorized and issued:		
Preferred, cumulative, 7 per cent	$5,000,000	
Common	7,000,000	12,000,000
Surplus		1,565,000
		$19,815,000

Upon investigation, you obtain the following information:

(1) U. S. government securities cost $2,600,000 and the market value at December 31, 1931, was $2,400,000.

(2) No reserve for probable losses on accounts receivable has been provided, but a loss of $150,000 is expected.

(3) Inventories were valued at the lower of cost or market.

(4) The market value of the 5,000 shares of treasury stock at December 31, 1931, was $900,000.

(5) An associated company used advances of $750,000, carried as accounts receivable, to erect a new plant. Excluding this liability the current liabilities of the associated company are 150 per cent. greater than its current assets.

(6) The cost of real estate and buildings, not in use and held for sale, was $2,500,000, and this has been reduced by depreciation to $1,500,000, by direct charges to surplus.

(7) After a careful examination and a discussion with the president, you estimate federal, state and other taxes at $2,500,000.

(8) Captial stock, authorized and issued, consists of 50,000 shares of 7 per cent. cumulative, preferred, of $100 par; and 70,000 shares of common, of $100 par.

(9) Upon analyzing the surplus account, you find that the company had purchased $3,000,000 of U. S. government securities at par, and charged the amount direct to surplus account. When verifying the securities on hand, you find these $3,000,000 bonds in addition to the securities actually recorded as assets. The market value of the $3,000,000 bonds, on December 31, 1931, was $2,760,000, and the interest has been accrued.

Would you certify this balance-sheet in its present form? If not, state your reasons, clearly and definitely, with reference to each questionable item.

Solution:

It is generally true that an auditor may certify to a balance-sheet if existing exceptions are stated as qualifications; however, the balance-sheet of the W M Company as of December 31, 1931, in the form submitted, is subject to so many qualifications, that I do not believe that a reader of the statement and the certificate would have a clear, definite understanding of the financial position of the company. For that reason, I would not certify the balance-sheet as submitted.

The exceptions to the statement follow (the numbers refer to the numbered paragraphs in the problem):

(1) The U. S. government securities carried at $2,500,000 cost $2,600,000 and have a market value of $2,400,000. The balance-sheet figure may represent par, or may indicate an attempt to provide for one-half the shrinkage; in any event, the preferable valuation for marketable securities is the lower of cost or market. For this reason, a reserve has been set up out of surplus to reduce these securities (as well as those disclosed in No. 9) to market price.

Current assets should never be valued at more than they are expected to realize and market value at the balance-sheet date is the best indication of the amount realizable on securities.

(2) The accounts receivable are overstated by the amount of the expected loss ($150,000), and a reserve for bad debts has been set up. Understatement of one asset does not permit overstatement of others.

(3) The inventory is properly valued at the lower of cost or market, but the basis of valuation should be stated in the balance-sheet. The total should preferably be broken down into finished product, work in progress, and raw material.

(4) The treasury stock should be reduced to par, by charging the premium to surplus, and should be deducted from capital stock outstanding in the net worth section of the balance-sheet. Although custom appears to sanction the practice of carrying such stock as an asset when the facts are clearly disclosed, this practice is not to be recommended unless the stock is definitely held for resale, as in the case of employees' stock purchase agreements.

This block of treasury stock comprises 7 per cent. of the common stock, and failure to deduct it from outstanding stock misstates the total of stock outstanding.

(5) These advances, both from their nature and from the current position of the associate, should not be classed as current assets. Together with the $1,000,000 investment in capital stock of the associate, they require careful examination of the accounts (or certified statements) of the associate to determine their value; it may be necessary to set up a reserve for possible loss. Again, the relationship may be such that a consolidated balance-sheet is necessary in order to set out the financial position of the two companies as a unit; also, there may be intercompany profits to eliminate. Even though a consolidated balance-sheet is not prepared, it may be desirable to carry the investment at book value rather than cost. Because of lack of data, it is necessary to show the advances and investment in the balance-sheet at the amounts stated in the problem.

(6) Fixed property held for sale should be valued at the estimated net amount realizable from its sale, after deducting commissions and expenses of selling. The depreciation taken ($1,000,000) may indicate an attempt to write the assets down to their realizable value, in which case it is satisfactory if it represents depreciation based on the expected life. The value should be adjusted to the proper figure as indicated above, unless the difference is slight.

Property held for sale should not be shown as a current asset, as it is not an asset which will be disposed of in the near future "in the ordinary course of the business."

(7) The large overstatement of the liability for federal, state and other taxes, together with item (9), indicates a wilful understatement of the financial condition of the business by the creation of so-called secret reserves; this is exactly as objectionable as wilful overstatement of condition. The auditor should not permit this, and should reduce the reserve to the probable amount of the liability—$2,500,000.

(8) The capital stock accounts are adequately presented in the balance-sheet submitted, except for the non-statement of the par value of the stock; the net worth section is defective, however, in not revealing the treasury stock, and in not showing total net worth as one figure.

(9) This condition is entirely indefensible; these U. S. government securities must be shown along with the other government securities, and on the same basis.

Other criticism:

Prepaid insurance and taxes are generally shown under a separate caption as prepaid expenses, rather than as current assets.

The plant account should be broken down to show the cost and reserve for depreciation of each type of fixed assets.

b. (15 points):

Prepare an amended balance-sheet of the W M Company, as at December 31, 1931, which you would be willing to certify.

Solution:

Before certifying to the following balance-sheet, the auditor should satisfy himself as to the value of the investment in the associated company; qualification of the certificate in this respect might be necessary.

W M COMPANY

Balance-sheet—December 31, 1931

Assets

Current assets:			
Cash		$ 2,000,000	
U. S. government securities:			
Cost	$5,600,000		
Reserve for decline in market value	440,000	5,160,000	
Accrued interest receivable		100,000	
Notes receivable—customers		240,000	
Accounts receivable—trade	$1,250,000		
Reserve for doubtful accounts	150,000	1,100,000	
Inventories (valued at cost or market—whichever is lower):			
Finished product			
Work in progress			
Raw material		1,200,000	
Total current assets			$ 9,800,000
Prepaid taxes and insurance			75,000
Investment in and advances to affiliate:			
Capital stock (at cost)		$ 1,000,000	
Advance for plant extension		750,000	1,750,000
Fixed assets—detailed:			
	Cost	Reserve for depreciation	Book value
			$ 8,000,000
Real estate and buildings held for sale—at estimated realizable value (cost $2,500,000)			1,500,000
			$21,125,000

Liabilities and net worth		
Current liabilities:		
Accounts payable	$ 1,250,000	
Federal, state and other taxes	2,500,000	
Total current liabilities		$ 3,750,000
Net worth:		
Capital stock—all of $100 par:		
7% cumulative preferred—		
Authorized and issued, 50,000 shares	$ 5,000,000	
Common—		
Authorized and issued, 70,000 shares; in treasury, 5,000 shares; outstanding, 65,000 shares	6,500,000	
Total capital stock	$11,500,000	
Surplus—exhibit B *	5,875,000	
Total net worth		17,375,000
		$21,125,000

In working a problem of this type without preparing a work sheet, the candidate should check his work by reconciling the adjusted surplus with the surplus figure given in the problem:

Surplus as stated		$1,565,000
Add:		
Decrease in reserve for taxes		2,500,000
Increase securities shown to cost		100,000
Cost of securities charged to surplus		3,000,000
Total		$7,165,000
Deduct:		
Reserve for bad debts	$150,000	
Premium on treasury stock	700,000	
Reserve for decline in market value of securities	440,000	1,290,000
Surplus as adjusted		$5,875,000

The following is the solution to Problem 4, Part I, which was omitted in the August issue of THE JOURNAL OF ACCOUNTANCY.

EXAMINATION IN ACCOUNTING THEORY AND PRACTICE—PART I

MAY 12, 1932, 1:30 P. M. to 6:30 P. M.

No. 4 (14 points):

From the data following, prepare a summary of the inventory as at December 31, 1931, and justify your method as compared with other systems in general use:

	Units	Cost
Raw material purchased in 1931	6,250,000	$437,500
Produced during 1931	6,000,000	

* Exhibit B would be a statement of surplus, starting with the surplus figure shown by the published balance-sheet as of December 31, 1930, and containing the provision for loss on securities, the premium on treasury stock, the operating profit for the year, and any other surplus adjustments, ending with a closing surplus of $5,875,000.

At cost of—		
Labor		$336,000
Factory expense		180,000
Depreciation		60,000
Scrap unrecoverable		30,000
On hand, December 31, 1931:		
Raw material	750,000	
In process (75% complete)	500,000	
Finished	250,000	

The company commenced operations January 1, 1921, with 500,000 units of raw material which cost $45,000. It manufactures a commodity composed of one uniform material, produced in one consistent form, which is billed to customers also by units.

Goods are manufactured on order only. They are in process about one month. About 500,000 units are on the machines at all times.

The market price of raw material December 31, 1931, was five cents a unit.

Unfilled orders (firm contracts) at December 31, 1931 (latest delivery date being March 31, 1932) were as follows:

Contract No.	Units	Sales price
787	100,000	$18,000
788	250,000	50,000
789	50,000	9,500
790	300,000	63,000
791	200,000	36,000
792	225,000	40,500

Solution:

The amount of the units produced, 6,000,000, as given in the problem, probably includes:

(1) the completion of the units on the machines at January 1, 1931, —25% of 500,000 or	125,000
(2) the conversion of 500,000 units per month for eleven months, or	5,500,000
(3) and the partial completion of the 500,000 units in process at December 31, 1931—75% of 500,000 or	375,000
Total	6,000,000

The unit cost of converting the 6,000,000 units produced during the year may be obtained by dividing those costs by the number produced, as follows:

	Total cost	Unit cost
Labor	$336,000	$.056
Factory expense	180,000	.03
Depreciation	60,000	.01
Totals	$576,000	$.096

The problem, while it gives the cost of the unrecoverable scrap during the year, does not give the number of units so scrapped, nor does it give the number of units of raw material necessary to produce 6,000,000 units. It would appear, therefore, that the cost of the raw material used during the year was—

	Units	Cost	Unit cost
Purchased	6,250,000	$437,500	$.07
Scrap unrecoverable (based upon production)	6,000,000	30,000	.005
Totals		$467,500	$.075

There are probably three different bases generally used in valuing inventories in businesses of this type: (1) the "base-stock" method, (2) cost or market, whichever is the lower, and (3) cost.

The "base-stock" method is used because of its convenience, and in a period of rising prices, because it is conservative. However, in a market which has seen the cost of the raw material drop from 9 cents at January 1, 1921, to 5 cents at December 31, 1931, it is questionable whether this method is desirable. For if this method were installed as of January 1, 1921, the cost of the raw materials would, no doubt, be carried at 9 cents—resulting, not in conservatism, but in overstatement of inventories in the subsequent periods of falling prices. If frequent revisions in the base price were made, the distinct advantage of convenience claimed for the method would be lost.

Cost or market, whichever is the lower, is recommended in valuing inventories to be sold in subsequent periods at prices obtainable in those periods, but in this particular business, which has firm contracts at a price in excess of cost, the cost basis should be used for those inventories which can be used to fill the contracts. If the goods are inventoried on a basis of a market price of 5 cents for raw material, the gross profit on the unfilled orders will be overstated during the subsequent period when these orders are shipped. Conversely, the gross profit on the orders shipped during the current period will be correspondingly understated.

An analysis of these unfilled orders shows:

Contract number	Number of units	Contract price	Unit price
787	100,000	$18,000	$.18
788	250,000	50,000	.20
789	50,000	9,500	.19
790	300,000	63,000	.21
791	200,000	36,000	.18
792	225,000	40,500	.18
	1,125,000		

All of these contracts call for a selling price higher than the cost of completed goods based on a material cost of 7½ cents ($.075+$.096=$.171, whereas the lowest price is $.18); therefore, 1,125,000 units of inventory may be valued on the basis of 7½ cents for raw material, and the remainder may be written down to 5 cents. (Average cost, being the only cost given in the problem, must necessarily be used as the cost.)

Summary of Inventory

		Raw material	Work in process	Finished goods	Total
Number of units		750,000	500,000	250,000	1,500,000
Raw materials:					
In all of the inventories, allocated to cover the requirements of the contracts for 1,125,000 units on a basis of the average cost of 7½ cents per unit.					
Number of units:					
	375,000	$28,125			
	500,000		$37,500		
	250,000			$18,750	
Total	1,125,000				$ 84,375
In stock, not allocated to any specific contracts—valued at market price:					
375,000 units at $.05		18,750			18,750
Conversion costs:					
At $.096 each:					
75% (500,000) or	375,000		36,000		
	250,000			24,000	
Total	625,000				60,000
Totals		$46,875	$73,500	$42,750	$163,125